

TECHNICAL REVIEW DOCUMENT
for
RENEWAL of OPERATING PERMIT 95OPDE049

Public Service Company, Denver Steam
Denver County
Source ID 0310041

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June 2001,
Revised July 2001 and August 2001
Revised November 2001 to reflect change in Denver metro area ozone status

I. Purpose:

This document will establish the basis for decisions made regarding the applicable requirements, emission factors, monitoring plan and compliance status of emission units covered by the renewed operating permit proposed for this site. The original Operating Permit was issued December 18, 1996, and expires on December 18, 2001. This document is designed for reference during the review of the proposed permit by the EPA, the public, and other interested parties. The conclusions made in this report are based on information provided in the renewal application submitted December 12, 2000, comments on the draft permit received August 2, 2001, previous inspection reports and various e-mail correspondence, as well as telephone conversations with the applicant. Please note that copies of the Technical Review Document for the original permit and any Technical Review Documents associated with subsequent modifications of the original Operating Permit may be found in the Division files as well as on the Division website at <http://www.cdphe.state.co.us/ap/Titlev.html>.

Any revisions made to the underlying construction permits associated with this facility made in conjunction with the processing of this operating permit application have been reviewed in accordance with the requirements of Regulation No. 3, Part B, Construction Permits, and have been found to meet all applicable substantive and procedural requirements. This operating permit incorporates and shall be considered to be a combined construction/operating permit for any such revision, and the permittee shall be allowed to operate under the revised conditions upon issuance of this operating permit without applying for a revision to this permit or for an additional or revised construction permit.

The word "credible" as it is used in the term "credible evidence" shall be applied under the provisions of the permit as defined by Colorado and Federal Rules of Evidence.

II. Description of Source

This facility generates steam sold for heating and other purposes and is classified under the Standard Industrial Classification 4961. The significant emission units consist of two industrial boilers burning natural gas and/or No. 6 fuel oil. Based on the information available to the Division and provided by the applicant, it appears that no modifications to these significant emission units has occurred since the original issuance of the operating permit. In addition, the list of insignificant activities changed since the original permit issuance. In their comments on the draft permit received on August 2, 2001, the source indicated that they had a small remove reservoir cold cleaner solvent vat at the facility. Typically these units have emissions below APEN de minimis but since this facility is located in the Denver metro area, they are subject to requirements in Colorado Regulation No. 7 and therefore cannot be considered an insignificant activity. The requirements for the remote reservoir cold cleaner solvent vat will be included in the operating permit as a significant emission unit.

Note that neither boiler is equipped with a control device and therefore the Compliance Assurance Monitoring (CAM) requirements do not apply to these units.

The facility is located at 1875 Delgany Street in Denver County. This facility is located in an area that has been designated as non-attainment for Carbon Monoxide and PM₁₀. As of the issue date of this permit, the State has submitted both CO and PM₁₀ attainment/maintenance plans to EPA. If EPA approves the plans, the Denver metro area will be reclassified as attainment/maintenance for CO and PM₁₀. Under that classification, all SIP-approved emission control standards related to CO and PM₁₀ will continue to apply.

As of October 11, 2001 the area is classified as attainment for the 1-hour ozone standard. However, all SIP-approved emission control standards related to ozone will continue to apply, including Regulation No. 7 provisions and minor source RACT requirements.

The summary of emissions that was presented in the Technical Review Document (TRD) for the original permit issuance has been modified to update actual emissions and to more appropriately identify the potential to emit (PTE). The PTE in the original TRD was based on emission factors and 8,760 hours per year of operation at the maximum design rate and did not take into account any regulatory emission limits, such as the Reg 1 PM and SO₂ emission limitations. In addition, since there has been a change in emission factors, for those pollutants whose PTE is based on emission factors, the PTE has been adjusted to reflect the updated emission factors. Emissions (in tons per year) at the facility are as follows:

| Pollutant | Potential to Emit – 100% Natural Gas | Potential to Emit – 100% No. 6 Fuel Oil | Actual Emissions – Combination ³ |
|------------------------------|---|--|--|
| PM ¹ | 241.7 | 241.7 | 0.43 |
| PM ₁₀ | 241.7 | 171.6 | 0.43 |
| SO ₂ ² | 1.1 | 2,976.2 | 316.8 |
| NO _x | 527.4 | 621.7 | 0.36 |
| CO | 158.2 | 66.2 | 23 |
| VOC | 10.3 | 3.7 | 0.83 |

¹ PTE, when burning any fuel, is based PM limit (0.124 lbs/mmBtu for Boiler No.1 and 0.120 lbs/mmBtu for Boiler No. 2) x design heat rate x 8760 hrs/yr.

² PTE, when burning No. 6 fuel oil, based on 1.5 lbs/mmBtu x design heat rate x 8760 hrs/yr.

³ Actual emissions identified in the table are based on natural gas consumption only, although the boilers may burn either natural gas or No. 6 fuel oil.

Potential to emit for the boilers is based on the information identified in the table and the maximum hourly fuel consumption rate, AP-42 emission factors and 8760 hrs/yr of operation. Actual emissions are based on the Division's 1999 inventory.

III. Discussion of Modifications Made

Source Requested Modifications

The source's requested modifications identified in the renewal application were addressed as follows:

Page following cover page

The Responsible Official's title and phone number were updated and the Permit Contact was changed as requested by the source.

Section II.2 – Oil Firing Scenario

Conditions 2.6.1 and 2.7.3 – SO₂ and Particulate Matter Monitoring: The source requested that the frequency of calculating the SO₂ and particulate emission rate be changed from "each time oil is burned" to quarterly. This change has been made as requested.

Condition 2.8 – Opacity Requirement: The source indicated that the Reg 1 30% opacity requirement had not been included and requested that this requirement be included in the permit. In addition, the source requested clarification of the monitoring requirements as the language in the permit is not completely clear on the frequency. These changes will be made as requested by the source.

Section II.3 – Combined Oil and Natural Gas Firing Scenario

Conditions 3.6.1 and 3.7.2 – SO₂ and Particulate Matter Monitoring: The source requested that the monitoring methodology for these units be changed to the methodologies found in the operating permit for Public Service Company's Zuni facility. While the Division is willing to make this change, in order to simplify the permit, the Division will replace the requirements in Section II.3 of the permit with the following language: "Any combination of the fuels identified may be burned in the boilers provided the most stringent requirements and periodic monitoring shall be followed for the combination of fuels burned. The most stringent periodic monitoring requirements are for No. 6 fuel oil-firing of the units." This is more consistent with language that has been used in other, more recent, draft Public Service operating permits for units burning a combination of fuels.

Section II.4 – Safety Kleen Cold Cleaner Solvent Vat

In their comments on the draft permit received on August 2, 2001, PSCo indicated that they had a remote reservoir cold cleaner solvent vat on site. In addition to adding conditions in Section II, the solvent vat is also discussed in the source description in Section I, Condition 1.1, listed in the Table in Section I, Condition 4.1 and in the Tables in Appendices B and C. Conditions in Section II of the permit regarding the cold cleaner solvent vat are based on the following:

1. Applicable Requirements - The solvent vat is subject to work practice standards identified in Regulation 7, Sections X.A (general provisions) and B (work practice/design standards). The source indicated that they have one cold solvent part cleaner that meets the requirements of Regulation No. 3, Part A, Section II.D.4.b.(vi) for small remote reservoir cold solvent degreasers and is therefore APEN exempt. Although this unit is APEN exempt it is subject to the requirements of Regulation No. 7, Sections X.A and B and therefore is included in the permit.

2. Emission Factors - This unit meets the requirements for small remote reservoir degreasers and is exempt from APEN reporting requirements. Therefore, no emission calculations to determine APEN reporting requirements is necessary.

3. Monitoring Plan - Because this unit meets the requirements of Regulation No. 3, Part A, Section II.D.4.b.(vi) this unit is in compliance with the requirements of Regulation No. 7, Section X.B by design. Annual certification by the Responsible Official that this unit has not been modified is adequate to demonstrate compliance with the applicable requirements for this unit. The source shall be required to certify annually that waste solvents are being handled appropriately as required by Regulation No. 7, Section X.A.3 and 4.

Other Modifications

In addition to the modifications requested by the source, the Division has included changes to make the permit more consistent with recently issued permits, include

comments made by EPA on other Operating Permits, as well as correct errors or omissions identified during inspections and/or discrepancies identified during review of this renewal.

The Division has made the following revisions, based on recent internal permit processing decisions and EPA comments, to the Denver Steam Renewal Operating Permit with the source's requested modifications. These changes are as follows:

Page following Cover Page

Clarified dates for monitoring and compliance periods, i.e. changed "January - June" to "January 1 - June 30".

The citation (above "issued to" and "plant site location") on the page following the cover page provides the incorrect title for the state act. The title will be changed from "Colorado Air Quality Control Act" to "Colorado Air Pollution Prevention and Control Act".

Section I - General Activities and Summary

The language in Condition 1.1 was changed to reflect the attainment/non-attainment status of the Denver metro area and to clarify that No. 6 fuel oil is used. In addition, the permit was revised to clarify that the fuel storage tank was included in the permit in the insignificant activity list.

The language in Condition 1.3 was changed based on comments made by EPA on other Operating Permits.

Condition 1.4 was split into two conditions, one addresses enforceability (Condition 1.4) and the other recordkeeping requirements (Condition 1.5).

Minor language changes were made to Condition 2.1. The language in Condition 2.2 was changed to address comments made by EPA on other operating permits and also to more adequately address the PSD status of the source.

Based on comments made by EPA on another operating permit, the phrase "Based on the information provided by the applicant" was added to the beginning of Condition 3.1.

The phrases "with no further modifications" were removed from the descriptions of the boilers in the table in Condition 4.1 to address comments made by EPA on other Operating Permits.

Added a "new" Section 5 for compliance assurance monitoring (CAM), note that no

emission units are subject to CAM.

Section II - Specific Permit Terms

Emission Factors

The permit was revised to include updated AP-42 emission factors. For No. 6 fuel oil, emission factors are from AP-42, Section 1.3 (September 1998), Tables 1.3-1 (for boilers > 100 mmBtu/hr, normal firing), 1.3-3 (for industrial boilers) and 1.3-4 (uncontrolled, cumulative mass percent, less than 10 micron). For natural gas, emission factors are from AP-42, Section 1.4 (March 1998), Tables 1.4-1 (for boilers > 100 mmBtu/hr, pre-NSPS) and 1.4-2. The following emission factors will be included in the permit:

| Pollutant | Natural Gas (lbs/mmSCF) | No. 6 Fuel Oil (lbs/10 ³ gal) |
|------------------|-------------------------|--|
| PM | 1.9 | 9.19S + 3.22 |
| PM ₁₀ | 1.9 | 0.71(PM) |
| SO ₂ | 0.6 | 162.7S |
| NO _x | 280 | 47 |
| CO | 84 | 5 |
| VOC | 5.5 | 0.28 |

Note that for natural gas, the new AP-42 emission factors for CO and VOC predict higher emissions and for No. 6 fuel oil, the SO₂, PM and PM₁₀ emission factors predict higher emissions.

Section II.1: Boilers Burning Natural Gas

- Changed the format of Condition 1.1, included an equation to calculate emissions and referenced AP-42 as the source of the emission factor.
- Included a numerical value in the table for the PM limitation (condition 1.3). This limitation is based on the maximum design fuel input for each boiler. Added a note indicating how the particulate matter limit was calculated. In addition, the monitoring language was changed to "In the absence of credible evidence to the contrary, compliance with the particulate matter standards shall be presumed whenever natural gas is use as fuel in these boilers."

At the maximum fuel input rate as specified in the original Title V permit application (submitted March 1, 1995), the particulate matter emission limit for boiler no. 1 is 0.124 lbs/mmBtu (maximum fuel input of 210 mmBtu/hr) and for boiler no. 2 is 0.120 lbs/mmBtu (maximum fuel input of 243 mmBtu/hr).

- The language regarding the monitoring for the 20% opacity requirement (condition 1.4) was changed to similar language as specified for the PM limitation.
- Added the Reg 1 30% opacity requirement (Condition 1.4) and included similar monitoring language as specified for the PM and 20% opacity limitations.
- Added a separate condition (Condition 1.2) to monitor fuel consumption annually. Note that this was indicated within other conditions of the permit, however, the Division believes that it is clearer if it is identified as a separate condition.

Section II.2: Boilers Burning No. 6 Fuel Oil

- Changed the format of Condition 2.1, included an equation to calculate emissions and referenced AP-42 as the source of the emission factor.
- Modified the language for fuel sampling (Condition 2.3) to allow the permittee to use vendor records.
- Separated Conditions 2.4 and 2.5 in the table.
- Added a numerical value for the PM limitation in the table (Condition 2.7). The value is the same as described for the boilers burning natural gas.
- The language regarding the Reg 1 two yr recordkeeping requirement being superseded by the 5 yr recordkeeping requirement in the general conditions was removed. The 2 yr recordkeeping requirement was streamlined out of the permit.

Section II.3 – Boilers Burning Combination of Natural Gas and No. 6 Fuel Oil

The conditions in this section were removed and replaced with language indicating that the permittee should follow the most stringent monitoring requirements when a combination of fuels is burned.

Section III – Permit Shield

- The title for Section 1 was changed from “Specific Conditions” to “Specific Non-Applicable Requirements” and a new section 3 was added for subsumed (streamlined) conditions. Note that the only streamlined condition was the requirement to keep records of No. 6 fuel oil use for 2 years (Colorado Regulation No. 1, Section VIII.C), which was streamlined out in favor of the 5 year retention requirement by Colorado Regulation No. 3, Part C, Section V.C.6 (general condition No. 21.b and c). Note that the permit

previously contained language indicating that the Reg 1 requirement to retain records for 2 years was superseded by the requirement to retain records for 5 years.

- Based on comments made by EPA on another permit, the following statement was added after the introductory sentence in Section 1 “This shield does not protect the source from any violations that occurred prior to or at the time of permit issuance”.
- Based on comments made by EPA on another permit, the following phrase was added to the beginning of the introductory sentence “Based upon the information available to the Division and supplied by the applicant”

Section IV - General Conditions

- Added an “and” between the Reg 3 and C.R.S. citations in General Condition 3 (compliance requirements).
- The language contained in the Common Provisions Regulation regarding upsets was included in General Condition 4.
- The citation in General Condition 7 (fees) was changed to cite the Colorado Revised Statute. In addition, any specific identification of a fee (i.e. \$100 APEN fee) or citation of Reg 3 was removed and replaced with the language “...in accordance with the provisions of C.R.S. [appropriate citation].”
- The citation in General Condition 13 (odor) was corrected. In addition, the phrase “Part A” was added to the citation for Condition 13 (odor). Colorado Regulation No. 2 was revised and a Part B was added to address swine operations. Colorado Regulation No. 2, Part B should not be included as a general condition in the operating permit.
- Condition 17 (ozone depleting compounds) was revised to reflect updates made to Colorado Regulation No. 15.
- The citation for Condition 25 (significant permit modifications) was corrected.
- The reference in Condition 28 (volatile organic compounds) to Regulation No. 7, Section III.C.3 was corrected to Regulation No. 7, Section VIII.C.3.

Appendices

- First Page of Appendices – The phrase “except as otherwise provided in the permit” was added after the word “enforceable” in the disclaimer at the request of EPA.

- A Plot Plan was added to Appendix A. In addition, the insignificant activities list was reorganized to look more similar to other Public Service Co operating permits.
- Appendix B and C were replaced with revised Appendices.
- The EPA addresses in Appendix D were corrected.